



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,857	01/17/2004	Boris Kobrin	MS-001	8766

7590 06/29/2005
Shirley L. Church, Esq.
P.O. Box 61929
Sunnyvale, CA 94088

EXAMINER

LUND, JEFFRIE ROBERT

ART UNIT PAPER NUMBER

1763

DATE MAILED: 06/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/759,857

Applicant(s)

KOBRIN ET AL.

Examiner

Jeffrie R. Lund

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 11-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-10, drawn to an apparatus, classified in class 118, subclass 715.
 - II. Claims 11-25, drawn to a method, classified in class 427, subclass 248.1.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions of Group II and Group I are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process.

(MPEP § 806.05(e)). In this case the apparatus as claimed can be used to practice another and materially different process such as etching.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Shirley Church on December 16, 2004 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-10. Affirmation of this election must be made by applicant in replying to this Office action. Claims 11-25 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one

Art Unit: 1763

or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 includes the limitations "at least one device which controls precursor vapor flow from said precursor container into said precursor vapor reservoir" (lines 9 and 10); "a device which controls vapor flow from said precursor container into said precursor vapor reservoir" (lines 14 and 15); and a device which controls precursor vapor flow into said precursor vapor reservoir upon receipt of a signal from said first process controller" (lines 17 and 18). It is not clear if these are three different devices or if they are all the same device. The drawings only disclose one device (valve 132) to control the flow between the precursor container and the precursor reservoir.

Claim 1 recites the limitation "the first process controller" in line 18. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 1763

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 2, 9/1, 9/2, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Hatano, US Patent 5,989,345.

Hatano teaches a deposition apparatus that includes: a precursor container 22 heated by a heater 28; precursor vapor reservoir 32; a valve 38D which controls the precursor flow to the precursor vapor reservoir 32 from the precursor container; a pressure sensor 60; a controller which receives information from the pressure sensor and controls the valve to when the desired pressure is reached; a process chamber 18; and a valve 38E that controls the precursor flow into the process chamber. The specific thickness of the coating is an intended use of the apparatus, and the apparatus of Hatano is inherently capable of depositing a coating of the thickness claimed. (Entire document, specifically, figure 1)

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

Art Unit: 1763

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 2-8, 9/4 and 9/5 rejected under 35 U.S.C. 103(a) as being unpatentable over Hatano, US Patent 5,989,345.

Hatano was discussed above.

Hatano differs from the present invention in that Hatano does not teach a plurality of process gas supply systems for other precursors and catalysts.

The motivation for duplicating the gas supply system of Hatano is to enable Hatano to supply multiple precursors and other gases such as catalysis. Furthermore, it has been held that the duplication of parts is obvious (see *In re Harza* 124 USPQ 378).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to duplicate the gas supply system of Hatano to supply multiple precursors and catalysts to the processing chamber.

13. Claims 1-10 rejected under 35 U.S.C. 103(a) as being unpatentable over Sneth et al, US Patent 6,503,330 B1, in view of Hatano, US Patent 5,989,345.

Sneth et al teaches a deposition system that has a plurality of precursors and catalysts located in chemical manifold section 40 and 41.

Sneth et al differs from the present invention in that Sneth et al does not teach that each of the precursor or catalyst sources in the chemical manifold sections have a precursor container heated by a heater; precursor vapor reservoir; a valve which

Art Unit: 1763

controls the precursor flow to the precursor vapor reservoir from the precursor container; a pressure sensor; a controller which receives information from the pressure sensor and controls the valve to when the desired pressure is reached; and a valve that controls the precursor flow into the process chamber.

Hatano teaches a precursor container 22 heated by a heater 28; precursor vapor reservoir 32; a valve 38D which controls the precursor flow to the precursor vapor reservoir 32 from the precursor container; a pressure sensor 60; a controller which receives information from the pressure sensor and controls the valve to when the desired pressure is reached; a process chamber 18; and a valve 38E that controls the precursor flow into the process chamber.

The motivation for adding the gas supply system of Hatano to the apparatus of Sneth et al is provide a specific gas supply system for the apparatus as required by Sneth et al but only generically described by Sneth et al.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to add the gas supply system of Hatano to the apparatus of Sneth et al.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited art teaches the technological background of the invention. The cited art contains patents that could be used to reject the claims under 35 USC § 102 or 103. These rejections have not been made because they do not provide any additional or different teachings, and if they were applied, would have

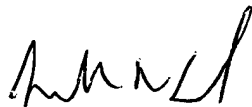
Art Unit: 1763

resulted in an undue multiplication or references. (See MPEP 707.07(g))

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrie R. Lund whose telephone number is (571) 272-1437. The examiner can normally be reached on Monday-Thursday (6:30 am-6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571) 272-1435. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jeffrie R. Lund
Primary Examiner
Art Unit 1763

JRL
6/27/05